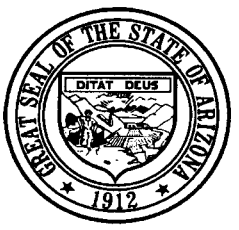
CHAPTER

9

Water Management Assistance Program



9.1 INTRODUCTION

The Water Management Assistance Program for the Third Management Plan is primarily intended to assist water users within the Pinal Active Management Area (AMA) in augmenting groundwater supplies and meeting conservation requirements. In addition, the program will allow the AMA to monitor and assess groundwater conditions during the third management period in order to better manage the groundwater resources and help achieve the AMA's management goal. Funding for the program is through a portion of the groundwater withdrawal fees paid annually by holders of groundwater rights in the AMA.

Augmentation assistance will primarily involve providing funds for augmentation projects and monitoring groundwater conditions. It will also include planning and technical support.

Conservation assistance will primarily involve providing funds for conservation projects. It will also include planning and technical support, as well as information and education services. Conservation assistance will continue to serve as a balance to enforcement actions related to conservation requirements.

The remainder of this chapter is organized as follows:

- Statutory Provisions (section 9.2)
- Second Management Plan Program Assessment (section 9.3)
- Third Management Plan Program Goals and Objectives (section 9.4)
- The Third Management Plan Water Management Assistance Program (section 9.5)
- The Department's Role in Program Activities (section 9.6)
- Future Directions (section 9.7)

9.2 STATUTORY PROVISIONS

The Groundwater Code (Code) requires that the Third Management Plan include "a program for additional augmentation of the water supply of the active management area, if feasible, including incentives for artificial groundwater recharge." A.R.S. § 45-566(A)(6). In addition, the management plan must include "a program for conservation assistance to water users within the active management area." A.R.S. § 45-566(A)(8).

An annual groundwater withdrawal fee is levied and collected from each person withdrawing groundwater in an AMA from a non-exempt well. Withdrawal fees are authorized by the Code and are assessed per acre-foot of groundwater withdrawn and beneficially used. The Code sets a withdrawal fee cap of $5.00 per acre-foot. A.R.S. § 45-611(C).

Since the creation of the Arizona Water Banking Authority (AWBA) in 1996, there is a statutory requirement to collect a groundwater withdrawal fee of $2.50 per acre-foot for AWBA's use through 2016. A.R.S. § 45-611(C)(3). However, for groundwater withdrawn to irrigate lands outside of an irrigation district, the amount of the fee starts at $.75 per acre-foot in 1997, and increases $.25 per acre-foot each year thereafter, to a maximum of $2.50 per acre-foot. An additional fee of up to $2.00 per acre-foot is specified for the purchase and retirement of grandfathered rights beginning in 2006, although the fee cannot be levied until the management plan contains a program for such purposes. A.R.S. § 45-611(C)(4). Through 2016, the director may set an amount of not more than $.50 per acre-foot per year to provide financial assistance for augmentation of the water supply, conservation assistance to water users, and for monitoring and assessing water availability within the AMA. A.R.S. § 45-611(C)(2).

Pursuant to A.R.S. § 45-614, by October 1 of each year, the director of the Arizona Department of Water Resources (Department) must set the groundwater withdrawal fee for the following calendar year, including the portion of the fee dedicated to conservation assistance, augmentation, and monitoring

activities, which varies for each AMA. Each AMA has a five-member Groundwater Users Advisory Council (GUAC), appointed by the governor to represent various sectors of the regulated water community. The GUAC makes recommendations to the director regarding how the fees should be set within the statutory limits.

9.3 SECOND MANAGEMENT PLAN PROGRAM ASSESSMENT

The Second Management Plan included separate programs for augmentation and conservation assistance. In the Pinal AMA, however, they were generally administered as a single program, which primarily involved funding augmentation and conservation projects through grants. The following assessment of the Second Management Plan grants program includes withdrawal fees and funds utilized, evaluation criteria, and projects funded.

9.3.1 Withdrawal Fees and Funds Utilized

9.3.1.1 Collection of Fees

The Department collected an augmentation fee for calendar year 1990 and beginning in 1991 when the Second Management Plan was modified to include a conservation assistance program, an augmentation and conservation assistance fee. Table 9-1 shows the annual fees and monies that have been collected for augmentation and conservation assistance in the Pinal AMA since 1990. The AMA's augmentation and conservation assistance fee was increased from $.25 per acre-foot in 1990 to $.35 per acre-foot in 1991 and to $.50 per acre-foot in 1994. Monies collected from the fee remained relatively constant at about $150,000 annually from 1991 through 1994 but have generally increased since to greater than $265,000 in 1997. In 1996, A.R.S. § 45-611 was amended to allow for withdrawal fees to be used for monitoring and assessing water availability in the AMA.

TABLE 9-1
ANNUAL FEES AND MONIES COLLECTED FOR
AUGMENTATION AND CONSERVATION ASSISTANCE, 1990-1997
PINAL ACTIVE MANAGEMENT AREA

Year	Withdrawal Fee (per acre-foot)	Groundwater Withdrawn (acre-feet)	Monies Collected
1990	$.25[1]	397,760	$99,440
1991	$.35	419,537	$146,838
1992	$.35	411,320[2]	$143,962
1993	$.35	446,814[2]	$156,385
1994	$.50	317,374	$158,687
1995	$.50	391,151[2]	$195,576
1996	$.50	514,595[2]	$257,298
1997	$.50	530,826[2]	$265,413

[1] For augmentation only.
[2] Includes in-lieu water use.

9.3.1.2 Allocation of Funds

The Second Management Plan allowed the director to allocate augmentation funds between two categories. Category I included construction and implementation projects. This category also included pilot and demonstration projects. Category II included planning, research, and feasibility studies for future construction and implementation projects.

Conservation assistance funds for the Second Management Plan were allocated among a number of different categories. These categories included, but were not limited to, the following:

- Planning, research, feasibility, and follow-up studies
- Construction and implementation
- Technical assistance
- Information and education materials
- Conservation devices
- Testing and monitoring equipment

Any funds not allocated to augmentation or conservation projects during the calendar year may be used to fund the Pinal County Water Augmentation Authority (PCWAA) pursuant to A.R.S. § 45-1972(B). Remaining funds that were collected from payment of withdrawal fees made in prior years and that have not been encumbered for augmentation and/or conservation projects or for funding PCWAA revert to the augmentation and conservation assistance fund for redistribution during the following calendar year.

9.3.2 Evaluation Criteria

In order to select projects to be funded, seven evaluation criteria were used for augmentation projects and ten criteria were used for conservation projects. Early on, AMA staff realized that there were significant problems with the criteria. In addition to the differences in the number of criteria, other major problems included ambiguity and subjectivity. Both sets of criteria also did not address the equity of funding projects based on the amount of monies a particular water use sector had contributed to the fund.

9.3.3 Projects Funded

9.3.3.1 Augmentation Grants

The Department has awarded six augmentation grants in the Pinal AMA totaling $199,974 since the inception of the program in 1991. The Department provided funding for augmentation studies to determine the feasibility of developing recharge facilities in the AMA. These studies have provided important information to PCWAA and have assisted it in developing partnership agreements with local irrigation districts and municipal providers to put Central Arizona Project (CAP) municipal water supplies to use.

In 1997, an augmentation grant was awarded to the Hohokam Irrigation and Drainage District for constructing a reservoir to store CAP water in the event of CAP water shortages, thereby reducing the need for groundwater withdrawals during such shortages. This project proved to be successful, and the Department funded the construction of a second reservoir for the district in 1998. More detailed information concerning the six augmentation grants can be found in Appendix 9A.

9.3.3.2 Conservation Assistance Grants

The Department has awarded 27 conservation assistance grants in the Pinal AMA totaling $696,754 since the program began in 1991 (see Table 9-2). The Department funded several projects to educate local

school children in grades K-12 about water resources and conservation. In addition, the Department has continually funded an irrigation mobile lab program known as the Irrigation Management Service (IMS). The Department also funded a number of projects that involved the dissemination of conservation information to water users and/or the general public. Conservation assistance funds were also used to purchase a leak detector for loan to small municipal water providers. More detailed information concerning the 27 conservation assistance grants can be found in Appendix 9B.

TABLE 9-2
CONSERVATION ASSISTANCE GRANTS BY PROGRAM AREA, 1991-1998
PINAL ACTIVE MANAGEMENT AREA

Program Area	Total Number of Grants	Total Funds Expended
Information and Education	11	$53,109
Agricultural Users	13	$638,398
Municipal Users	2	$4,672
Industrial Users	1	$575
TOTAL	27	$696,754

9.3.4 Summary of Second Management Plan Program

The grants program in the Pinal AMA has largely been successful in enhancing the Second Management Plan augmentation and conservation assistance programs. The Department awarded 34 grants totaling $900,728 over an eight-year period. These grants were spread among the different water use sectors regulated under the Second Management Plan conservation programs. The majority of the funds expended for conservation assistance were used to assist the agricultural sector, reflecting the sector's substantial contribution to the grants fund. The majority of funds expended for augmentation were used to increase the utilization of CAP water supplies in the AMA.

9.4 THIRD MANAGEMENT PLAN PROGRAM GOALS AND OBJECTIVES

The Water Management Assistance Program for the Third Management Plan includes two goals: one for augmentation assistance and another for conservation assistance.

9.4.1 Augmentation Assistance Goal and Objectives

The goal for augmentation assistance is to support the goal and objectives of the Augmentation and Recharge Program for the Third Management Plan (see section 8.4). The Department will strive to meet this goal by working toward the following program objectives:

- Provide funds for augmentation projects, including recharge projects, for agricultural, municipal, and industrial water users.
- Provide planning and technical support for augmentation projects.
- Provide funds for monitoring and assessing groundwater conditions to facilitate effective development of a regional recharge plan.

- Support the development and implementation of a regional recharge plan to coordinate recharge of renewable water supplies and address groundwater problems in critical areas.

- Work to increase public awareness of the importance of water supply augmentation.

9.4.2 Conservation Assistance Goal and Objectives

The goal for conservation assistance is to assist water users within the Pinal AMA in achieving their Third Management Plan conservation requirements. The Department will strive to meet this goal by working toward the following program objectives:

- Provide funds for conservation projects for agricultural, municipal, and industrial water users and for information and education on water conservation.

- Provide planning and technical support for conservation projects.

- Act as a centralized source for information on water conservation.

- Work to increase public awareness of the importance of water conservation.

9.5 THE THIRD MANAGEMENT PLAN WATER MANAGEMENT ASSISTANCE PROGRAM

9.5.1 Allocation of Program Funds

The focus of the Third Management Plan Water Management Assistance Program is on allocating funds for augmentation and conservation projects. Allocation of program funds includes fund categories for augmentation and conservation assistance, project selection process and evaluation criteria, and fund allocation methods.

9.5.1.1 Fund Categories

During the third management period, augmentation and conservation assistance monies can be allocated to fund many different types of projects within a number of general categories. Inherent in some of these categories is the need for Department and AMA staff services. Fund categories will include, but not be limited to, the following:

9.5.1.1.1 Augmentation Assistance

- Planning, research, feasibility, and follow-up studies
- Technical assistance
- Construction and implementation of augmentation projects, including recharge projects
- Monitoring and assessing groundwater conditions in the AMA

9.5.1.1.2 Conservation Assistance

- Planning, research, feasibility, and follow-up studies
- Construction and implementation of conservation projects
- Technical assistance
- Information and education materials
- Conservation devices and technology
- Testing and monitoring equipment

9.5.1.2 Project Selection

While any effort that leads to the augmentation or conservation of water resources is to be encouraged and commended, the efforts that should be supported by the augmentation and conservation assistance fund at any particular time will depend on many factors. These factors will determine what portion of the fund should be devoted to augmentation or conservation projects, what portion of the fund should be devoted to each water use sector, what augmentation or conservation projects should be supported within a particular sector, and what portion of the fund should support projects through the Department. The purpose of this section is to discuss the factors or criteria that will guide the selection decisions and the process under which that decision-making will occur during the third management period.

9.5.1.2.1 Selection Process

The decision-making process must allow for a great deal of flexibility. During the third management period, changes may occur in water use patterns, technological advances, social values, institutional constraints, and the economic feasibility of conservation or augmentation projects. In light of this potential for change, it is impractical at this time to determine the types of augmentation or conservation projects that merit funding. The alternative is to develop a project selection process that is flexible, as well as politically and publicly responsive. This is accomplished by creating a process similar to the one used for selecting augmentation and conservation projects during the second management period, a process that involved full participation of the GUAC. The GUAC's regularly scheduled meetings provide an excellent forum for public review and comment on projects and proposals.

Each year, the Department will provide notice to water users within the Pinal AMA of the procedures that will be used for submitting project proposals to be considered for funding. The notice may include an identification of the categories or types of projects that the Department would like to see funded during the year. Following this notice, proposals will be solicited from water users. The Department may also submit its own projects for consideration. Using the evaluation criteria set forth below, the proposals will be reviewed by the AMA staff and GUAC, who will grade the proposals as to their relative merits. The GUAC will then recommend projects for funding to the director. If the GUAC recommends a project proposed by the Department, the GUAC will also recommend whether the project should be implemented by the Department or another entity based on an evaluation of efficiency, effectiveness, and short-term and long-term benefits to the AMA. The director will then consider the GUAC and AMA staff recommendations and determine which projects should be funded.

9.5.1.2.2 Evaluation Criteria

For the third management period, the evaluation criteria that will be used by the GUAC and AMA staff in recommending projects to receive monies from the augmentation and conservation assistance fund are designed to provide maximum flexibility in satisfying the program goals and objectives. This approach, unlike the one used for the Second Management Plan, is not restricted by specific program areas or fund categories that may not meet changing needs and priorities in the future. Ten evaluation criteria will be used in selecting both conservation and augmentation projects, and all of the criteria will be assigned the same weight.

1. Compliance with applicable federal, state, and local regulations.

2. Cost-effectiveness of the project.

3. Compatibility with current Department programs and policies, and consistency with the AMA's water management goal and objectives.

4. Need for and likelihood of community support for the project.

5. Extent to which the type of project has previously been proven feasible and effective, or extent to which implementation of the project will provide information on feasibility and effectiveness if not previously proven.

6. Demonstrated need for the project.

7. Promotion of efficient use of water supplies.

8. Past performance of project proponent with regard to implementing augmentation or conservation projects.

9. Ability of the project proponent to obtain matching or additional funds.

10. Duration of project benefits.

In addition to using the above evaluation criteria, the GUAC may also choose to give special preference points to specific fund categories and/or types of projects. For example, preference points may be given to those augmentation projects that increase the use of CAP supplies or to those conservation projects that benefit the water use sector that provides the majority of the program funds. These special categories may change from year to year. The number of extra preference points given will be subject to the discretion of the GUAC.

9.5.1.3 Fund Allocation Methods

Once an augmentation or conservation project has been selected to receive monies from the fund, the method that will be used to allocate monies for the project will depend on the type of entity chosen to implement the project. If the project is to be implemented by a private entity, the Department will either allocate the money through a grant contract to the entity proposing the project or seek requests for proposals (RFPs) from private contractors under the provisions of Arizona's Procurement Code. A.R.S. § 41-2501, *et seq*. If RFPs are sought, all of the RFPs received by the advertised deadline will be evaluated by the Department. A contract will then be executed with that entity whose RFP best meets the applicable contract guidelines. If the project is to be implemented by a public agency, board, or commission, the Department will either allocate the money to the entity through a grant contract or execute an intergovernmental agreement (IGA) pursuant to A.R.S. § 11-952.

If the project is to be implemented by the Department, monies will be withdrawn from the fund for payment of the costs of the project as they accrue. The Department may also select a contractor through the RFP process to perform specific services in accordance with Arizona's Procurement Code.

9.5.2 Fund Accounting

The Department will expeditiously notify the GUAC of all decisions regarding allocations from the augmentation and conservation assistance fund. In addition, the Department will provide an annual accounting to the GUAC of expenditures from the fund, project status, and achievement of benefits gained.

Any monies in the augmentation and conservation assistance fund that are not distributed during a calendar year may be used to fund PCWAA pursuant to A.R.S. § 45-1972(B). The balance of monies shall remain in the augmentation and conservation assistance fund for allocation in the following calendar years. The GUAC may elect to hold some of these monies in a contingency fund. This fund could be used at the

discretion of the Department to purchase computer hardware, software, and other supplies to support the water management assistance program for the Pinal AMA.

9.6 THE DEPARTMENT'S ROLE IN PROGRAM ACTIVITIES

The Department's role in the Water Management Assistance Program for the Third Management Plan is to:

- Develop project proposals
- Review and provide input on project proposals
- Evaluate and prioritize project proposals
- Implement Department projects
- Provide technical and planning assistance
- Provide information and education services
- Promote the exchange of information among entities implementing the projects
- Administer all contracts and IGAs executed under the program

Fund management and administration of contracts and IGAs will be coordinated between the Department's Administrative Services Division and AMA staff. The centralized functions include management of the separate funds for each AMA and administration of contracts and IGAs. AMA staff will initiate and support the project selection process and serve as technical manager for most contracts and IGAs. AMA staff will also be responsible for evaluating and prioritizing project proposals under consideration within the AMA. The GUAC will serve as the primary source of advice in the project selection process. Water users and the general public will also be encouraged to provide input.

9.6.1 Information and Education Services

The Department's Web site, www.adwr.state.az.us, will serve as an information clearinghouse and the primary public venue for dissemination of current information on the water management assistance program. Information gained through the program, which is deemed to be regionally or nationally transferable, will be placed on the Department's Web site and updated regularly. An additional focus will be linking the Department's Web site to other pertinent Web sites. This linkage will assist users in finding information on water supply augmentation and water conservation from other sources.

In addition, a centralized clearinghouse could include a library of augmentation and conservation literature and detailed information on grants and contracts funded. A clearinghouse could also provide centralized water conservation outreach activities.

AMA staff will be responsible for developing water conservation information materials, educational curricula, displays, and programs specific to water users within the AMA. These materials may be developed independently, in cooperation with other AMAs, or through partnerships with water users, other government agencies, or community groups.

AMA staff will also be responsible for maintaining inventories of information and educational materials for distribution to water users within the AMA. Conservation and other water-related presentations to schools, civic groups, and others will generally be the responsibility of the AMA staff.

9.6.2 Assistance Activities

AMA staff will provide direct assistance to individual water users to promote compliance with their conservation requirements. Assistance activities may include providing general or specific advice,

performing research, assisting in the development of conservation and water management programs, and providing field or other technical support.

9.7 FUTURE DIRECTIONS

The focus of this chapter has been on providing a framework under which the Department will strive to meet the goals and objectives of the Third Management Plan Water Management Assistance Program. The Department will use monies from the augmentation and conservation assistance fund to enhance the ability of water users in the Pinal AMA to maximize utilization of renewable water supplies and use all water supplies in an efficient manner, thereby helping to ensure that Third Management Plan conservation requirements are met. In addition, these monies will allow the Department to monitor and assess groundwater conditions in the AMA in order to better manage the groundwater resources. The Department will also work to increase public awareness of the importance of water supply augmentation and water conservation.

There are several issues that could affect the future of the water management assistance program. These issues include reduced program funding and the relationship of the program to the goals and objectives of the other Third Management Plan programs.

9.7.1 Reduced Program Funding

A major downturn in the regional agricultural economy would result in a sharp reduction in program funds, because agricultural water users contribute approximately 95 percent of the augmentation and conservation assistance monies collected annually in the Pinal AMA. Should this situation occur, AMA staff would have little choice but to recommend that only a limited number of high priority projects be funded.

9.7.2 Relationship of Program to Goals and Objectives of Other Third Management Plan Programs

As the Department continues its efforts to facilitate increased utilization of renewable water supplies in concert with water conservation, program funds could be used to promote the goals and objectives of the Third Management Plan regulatory and non-regulatory programs. The agricultural, municipal, and industrial conservation programs (chapters 4, 5, and 6, respectively) all demonstrate the need for assistance in increasing utilization of renewable water supplies and for continued conservation assistance and education during the third management period.

- Agricultural conservation program - Assistance needs identified include providing irrigation water management assistance to farmers and funding for the installation of efficient irrigation systems and infrastructure to convey renewable water supplies to farms. Other needs identified include monitoring crop and water use patterns and evaluating the impact of market conditions and regulatory programs on farming operations.

- Municipal conservation program - Assistance needs identified include evaluating the effectiveness of conservation programs and funding education programs that have potential for resulting in significant, long-term water savings.

- Industrial conservation program - Assistance needs identified include developing opportunities for use of renewable water supplies, providing technical and planning support, and funding research on new water conservation technologies.

In addition, the augmentation and recharge program (Chapter 8) identifies the need to develop and implement an extensive, long-term groundwater monitoring program in the Pinal AMA during the third

management period. More accurate information is needed on groundwater movement, amounts of groundwater in storage, water levels, and decline rates in order to achieve the AMA's management goal as interpreted for the third management period. In conjunction with a groundwater monitoring program, a comprehensive regional recharge plan also needs to be developed and implemented to coordinate recharge activities and address groundwater problems in critical areas.

APPENDIX 9A
AUGMENTATION GRANTS, 1991-1998
PINAL ACTIVE MANAGEMENT AREA

Year	Grantee	Project	Grant Amount
1991	None		$0
1992	Pinal County, Department of Civil Works	Research feasibility of recharging flood waters and other renewable water supplies on lower Santa Cruz River	$15,000
1993	Pinal County Governmental Alliance	Research feasibility of developing a joint project for recharging local municipal CAP allocations	$15,000
	Pinal County, Department of Civil Works	Research feasibility of enhancing Picacho Reservoir for groundwater recharge and allied purposes	$10,000
1994	City of Casa Grande, Public Works Department	Research feasibility of recharging excess effluent from city's expanded wastewater treatment plant	$15,000
1995	None		$0
1996	None		$0
1997	Hohokam Irrigation and Drainage District	Construct reservoir for temporary storage of CAP water during shortages	$55,350
1998	Hohokam Irrigation and Drainage District	Construct second reservoir for temporary storage of CAP water during shortages	$89,624
TOTAL	6 grants		$199,974

APPENDIX 9B
CONSERVATION ASSISTANCE GRANTS, 1991-1998
PINAL ACTIVE MANAGEMENT AREA

Year	Grantee	Project	Grant Amount
1991	The Three NRCDs (Natural Resource Conservation Districts)	Conduct Irrigation Management Service (IMS) Program	$46,077
1992	The Three NRCDs	Conduct IMS program	$92,000
	U.S. Water Conservation Laboratory	Conduct Interagency Management Improvement Program (IMIP)	$10,000
	Arizona Department of Water Resources, Tucson AMA	Publish brochure on Second Management Plan conservation programs	$3,000
1993	The Three NRCDs	Conduct IMS program	$84,000
	U.S. Water Conservation Laboratory	Conduct IMIP	$3,000
	Casa Grande Elementary School District	Develop Environmentally Smart Student Project (ESSP)	$4,000
	City of Casa Grande, Planning and Development Department	Purchase low water use landscape brochures	$442
	Eloy, Florence-Coolidge, and West Pinal NRCDs	Purchase water conservation materials for Natural Resource Information Center	$1,500
	City of Eloy, Water Department	Purchase water billing computer software	$3,500
1994	The Three NRCDs	Conduct IMS program	$90,000
	Interim Coordinating Group	Conduct IMIP	$3,500
	Casa Grande Elementary School District	Develop ESSP	$8,000
	City of Casa Grande, Planning and Development Department	Purchase low water use landscape brochures	$443
	City of Casa Grande, Planning and Development Department	Conduct turf management workshop	$575
	Agrometrics, Inc.	Demonstrate low altitude thermal imagery mapping of farmland	$3,750
	Santa Cruz Valley Union High School	Develop and conduct ecology/water conservation course	$4,000
	Arizona Department of Water Resources, Pinal AMA	Purchase leak detector	$1,172

APPENDIX 9B
CONSERVATION ASSISTANCE GRANTS, 1991-1998
PINAL ACTIVE MANAGEMENT AREA

Year	Grantee	Project	Grant Amount
1995	The Three NRCDs	Conduct IMS program	$72,500
	Casa Grande Elementary School District	Develop ESSP	$4,000
1996	The Three NRCDs	Conduct IMS program	$94,147
	The University of Arizona, Maricopa Agricultural Center	Develop and conduct short course for training irrigators	$4,000
	Casa Grande Elementary School District	Develop ESSP	$7,300
1997	The Three NRCDs	Conduct IMS program	$66,035
	The University of Arizona, Water Resources Research Center	Develop and promote K-6 interactive water education/conservation exhibit	$10,391
	Casa Grande Union High School District	Develop school arboretum and associated class curriculum	$10,033
1998	The Three NRCDs	Conduct IMS program	$69,389
TOTAL	27 grants		$696,754